Synopsis of the thesis entitled:

Agriculture diversity and its impacts on environmental factors/ conditions of Tribal region in Mokhada taluka, Dist: Palghar

To be submitted to:

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Introduction:

The nature of what constitutes an Indian Tribe and the very nature of tribe have changed considerably over centuries.

A tribe is a social division in a traditional society consisting of families linked by social, economic, religious ties, with a common culture and dialect. A tribe possess certain qualities and characteristics that makes it a unique, cultural, social entry.

The tribes in India form an important part of the total population. It represents an element in Indian society which is integrated with the culture mosaic of our civilisation. The tribal population of India constitutes nearly 8 percent of the total population. There are a number of tribes in India, spread over different parts at different levels of socioeconomic development. The term tribe is derived from the Latin word tribus. Earlier Romans used this term to designate the divisions in society. Latter use suggests that it meant poor people. The present popular meaning in English language was acquired during the expansion of colonialism particularly in Asia and Africa. In none of the Indian language there were the term tribes. In India the term tribe conveys a meaning of a bewildering and enchanting group of people. It refers to preliterate, localised social group the members of which speak a common dialect. The tribal people have been known by various names such as Adivasi, Vanavasi, Vanyajati, Adimjati, Girijan and Pahari etc. Ghurey has described them as backward Hindus.

The Indian Constitution has made important provisions for the development and welfare of the tribes. A list of tribes was adopted for this purpose. The list has been modified from time to time. In 1971, the list contained names of 527 tribes. The people who have been listed in the Constitution and mentioned in successive presidential orders are called Scheduled Tribes. This is the administrative concept of tribe. The constitution of India recognized tribal communities in India under Schedule 5 of the constitution. There are around 645 distinct tribes in India. Tribes are also known as 'Adivasis'.

Population of Schedule Tribe (ST) is 10.43 crore as per census 2011 which accounts for 8.6% of the total population of the country.

Review of Literature:

Under this topic study of Agricultural Diversity and how this diversity has made drastic changes in itself from ages, it's been good and bad. Cropping patterns, Food culture, impacts tribes faced, their lifestyle changes, changes in health and environment. Numerous Tribes use innovative practices to protect natural resources and the environment. This report showcases only a small sample of Tribal communities that demonstrate Success in achieving natural resource and environmental goals. The overall intent of this report is to highlight examples of successful Tribal practices that will inspire and be useful to others in Successfully implementing their own natural resource and environmental programs. India in the present scenario is rich in biodiversity. The indigenous people have helped in conservation of bio-diversity. However, efforts for conservation have to be made in both vertical as well as horizontal direction due to rapid industrial revolution. Conservation of diversity, sustainable management, propagation of such valued flora and their in-situ as well as ex- situ conservation are the need of this century. Therefore, various disciplines like Genetics, Pollen biology, Tree Breeding, Ecology, Botany, Physiology, Eco - restoration, Taxonomy, Ethno -botany, Taxonomy, Phyto chemistry,

Biometrics, Bio-stat should work at one platform and linkages have to be established. In sacred forests as well as in localities dominated by ethnic people needs to be served for identification of plants associated with various ethno-botanical uses followed by phytochemical studies. Awareness campaigns and training programs are to be organized in tribal localities for eco -restoration and conserving floras

Agricultural biodiversity:

It provides humans with food and raw materials for goods - such as cotton for clothing, wood for shelter and fuel, plants and roots for medicines, and materials for biofuels and with incomes and livelihoods, including those derived from subsistence farming. Agricultural biodiversity also performs ecosystem services such as soil and water conservation, maintenance of soil fertility and biota, and pollination, all of which are essential to human survival. In addition, genetic diversity of agricultural biodiversity provides species with the ability to adapt to changing environment and evolve, by increasing their tolerance to frost, high temperature, drought and waterlogging, as well as their resistance to particular diseases, pests and parasites. This is particularly important

regarding climate change. The evolution of biodiversity, and therefore both its and our survival, mainly depends on this genetic diversity.

The importance of agricultural biodiversity encompasses socio-cultural, economic and environmental elements. All domesticated crops and animals result from human management of biodiversity, which is constantly responding to new challenges to maintain and increase productivity under constantly varying conditions. For years, tribal communities have been collecting a wide array of tubers, roots, leaves, mushrooms, seeds, beverages, honey and herbs from forest zones. There is considerable overlap in ripening among different species, resulting in year-round availability wild fruits. These wild uncultivated plants and products make a significant contribution to the community's food and nutrition security and animal food web.

Aims and Objectives:

1) To know the diversity in agriculture, comparison between old and new cropping style and total yield from the same.
2) Conservation of seeds and crops, if there are any seed banks.
3) Wild plant uses as medicines. Intercropping styles and methods.
4) Factors responsible for pollution, Climatic change and its impacts.
5) Use of Fertilizers now and before - Comparison pf it with production rate and health benefits.

Study Area:

We will select one tribal region which includes 10 Villages from one Taluka. Palghar is known as Tribal district. In which Jawhar-Mokhada taluka is famous for its Green beauty and Climate, famous as hill station. They are rich in Flora and Fauna. And most important factor for studying this area is they have been Untouched by certain factors like Pollution, Industrial development etc. People from here still using ancestral, traditional practices for agriculture. Which will help us in collection of authentic information, data which will be very useful in future for Environmental sustainability.

Research Methodology

Research will be done by following methods:

1) Collection of data by Questionnaire and approaching people, participatory rural appraisal methods, taking interviews from selected village.
2) Lab tests for water quality from all the seasons by collecting samples from available water sources. (For all seasons)
3) Soil test (pH, Water content, Grain size analysis Dry / Wet Sieve analysis, liquid limit, Moisture content, TLC for Nutrient content. (For all seasons)
4) Collection of information about agriculture, climate from Past and present too.
5) Climatic changes observation from all the Seasons.
6) Use of Traditional practices VRS Modern techniques and by doing comparison of these two, we can show production ratio of both plus nutrient content. For this, samples from traditional practices and modern techniques will be collected, health benefits and impacts of the same.

Research plan

To find out the following:

1) Type of pollution, effect of the same on plants and agricultural practices.
2) Effect of food diversity on health, Nutritional content from Samples collected from Traditional and modern practices.
3) Biodiversity hotspots if any- co relation with climatic factors, pollution
4) Eco sensitive zones, Ecosystem changes
5) Which conservation activities should be taken for health issues, cultural practices regarding agriculture, food diversity, agricultural improvements, storage of crop saplings and seeds and method for same, their current storage method.
6) Surveys will be conducted by following a questionnaire made.
7) Data regarding all Seasons should be observed and keep in record, .
8) agriculture residue, excess salt from applied irrigation water
9) Air quality study. Agriculture air pollution comes mainly from Ammonia, which enters the Air as Gas from heavily fertilized fields and livestock waste. And its effect on crop and Human health.
10) Income and livelihood options.

Limitations in Research:

1.Modern agriculture methods requires a great deal of capital.

2. Less data on traditional practices.

3. Adaption to climate change disturbances

4. Production instability, Climatic changes which are not stable these days.

5. Soil erosion due to various reasons

6. Supply of poor quality seeds from government, inadequate use of efficient farm equipments.

Year-wise Plan of work and targets to be achieved:

1. First year

First six months:

1. Finalizing study area by conducting a primary survey.
2. Literature study for broaden research base.

Second Six months:

1. Analysis of samples & primary data collection.
2. Literature review.
3. Analysis of primary data & interpretation.

2) Second Year-

First Six months:

1) Analysis of samples & data collection.
2) Literature review.
3) Preparation & publication of research paper.

Second Six months:

1. Analysis of samples & data collection.
2. Literature review.
3. Analysis & data interpretation.

3) Third Year-

First Six months:

1. Analysis of primary data generation.
2. Discussion on the statistical analysis of the research & conclusion.
3. Preparation & publication of research paper.

Second Six months:

Finalizing the result drawn & conclusion.

1. Ph.D. Thesis writing.

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